in the Talbot process. But it has its great disadvantage since if the molten pig iron comes into contact with highly heated ore, immediately the action of the carbon on the same takes place in so violent a manner that the furnace is no longer capable of overcoming the gases developed. One must shut off the gas and air and pour the pig iron in very slowly. In spite of this, the gases blow out of the furnace doors, and they issue with such violence from the bath that shreds of viscous slag are flung upon the roof and port blocks, the duration of life of which must be much injured by such direct treatment with basic materials. It even happens that portions of the furnace contents are actually thrown out. .Kurnacos which are frequently exposed to such conditions must quickly be brought to a stoppage. Dr. Naske, indeed, mentions in his essay that " by means of corresponding construction of the hearth, but still more by means of suitable work with the preheated materials, this objection is to bo met, and injurien to the furnace can be completely obviated " ; but it might not be easy to produce proof of the correctness of the above assertion.

The employment of large charges is very favourable to obtaining large production, as shown by the first example given, i.e., Charge 8,996. The furnaces of the South KuBnian works quoted, which were capable in "'he bust instances of producing 17 to 18 tons of steel in 4 hours by the pig and scrap process, are now running charges of 80 tons of molten pig iron and converting them into steel in the same time. This large production does not result at all at the expense of good quality, but a metal is thereby obtained which on the ground of the mechanical tests as well as behaviour under further working, and not last, the judgment of the eoiiBumerB is faultless, and even appears superior to that formerly made by the pig and scrap process. The ground thereof is obviously the low content of oxygen, and the latter IB possible by the means that with all properly conducted " heats," at the finish manganese is reduced from the slag into the metal, BO that for deoxidation, in spite of the large quantity of slag, not more manganese is devoted than in charges which are made by any other process from the best materials. That the charge